

Faculty Profile of Kolhan University, Chaibasa

Faculty Profile of Roman University, Chhabra						
Title	Dr.	First Name	SUSMITA	Last Name	DHARA	Photograph
Designation		ASSISTANT PROFESSOR OF PHYSICS				
Place of Work		L.B.S.M. COLLEGE, JSR				
Permanent Contractual		/ PERMANENT				
Address		L.B.S.M. COLLEGE, JSR				
Phone No.		8454065204, WhatsApp : 9757065580				
Email:		susmiphys@gmail.com				
Scholar Profile :	Google	https://scholar.google.com/citations?pli=1&authuser=2&user=58F_PF8AAAAJ				H-index 5 i10-index 3
Research profile:	Gate	https://www.researchgate.net/profile/Susmita-Dhara-2				RG Score 65
Educational Qualification						
Degree		Institution		Specialization/Subject		Year
Ph. D.		Saha Institute of Nuclear Physics, Kolkata		Condensed Matter Physics		2016
M. Phil/Others		NA		NA		NA
Masters		Visva-Bharati University		Physics		2010
B.Sc. / BA/ Bcom.		Visva-Bharati University		Physics (Hons), Subs-Math, Subs-Chem, Ev. Sc, Tagore study		2008
Intermediate		Uttar Shiksha Sadana, Santiniketan, Visva - Bharati		Phy, Chem, math, Bio, Eng, Beng, Voc-Leather work		2005
Metric		B Arambagh Girls High School, Arambagh, India		Beng, Eng, Geo, Hist, Phys.Sc, Li. Sc, Math, Work. Edu.		2003
Academic Career Profile (from current to post M.Sc/A./Com. Teaching (UG/PG) /or Research)						
		Working as Assistant Professor		from 26.08.2022	to present	
NET/SLET/GATE/JEST						
Net LS June,2012						
Area of Interest / Specialization						
Sample preparation using wet chemical method and arc melting.						
☐ Characterization of the samples using x-ray diffraction, transmission electron microscopic study and inductively coupled plasma optical emission spectroscopic study.						
☐ Magnetic property study of using MPMS7 -VSM SQUID.						
☐ Transport study of using PPMS.						
☐ NMR study of these nano and bulk –materials (specialized in NMR).						

Software Skill:

- Operating Systems: Window XP and Windows 7,8, Linux
- Software Packages: FullProf, Origin 9, Mathematica.
- Languages: C, Fortran77.

Research Profile**Ph. D. Awarded / Registered:**

Sl. No.	Title of Thesis	Name of Scholar	Status (Awarded with date / Registration with date)

No of Vacant Research Scholars place under you: Nil**Reference Book / Chapter published in Refereed/Peer Reviewed Book**

Sl. No.	Title	Author/s	Publisher's name	Year Page & Volume	ISSN / ISBN
<u>Session: 2020-21 (July – 01, 2020 to June 30, 2021)</u>					
<u>Session: 2019-20 (July – 01, 2019 to June 30, 2020)</u>					
<u>Session: 2018-19 (July – 01, 2018 to June 30, 2019)</u>					
<u>Session: 2017-18 (July – 01, 2017 to June 30, 2018)</u>					
<u>Session: 2016-17 (July – 01, 2016 to June 30, 2017)</u>					
<u>Earlier : 2015</u>					

Research papers published in Refereed/Peer Reviewed Journals

Sl. No.	Title	Authors	Journal Name	Year, Vol., Page	ISSN	doi	UGC Care List No / SCI
<u>Session: 2020-21 (July – 01, 2020 to June 30, 2021)</u>							
<u>Session: 2019-20 (July – 01, 2019 to June 30, 2020)</u>							
	Anomalous magnetoresistance and magnetocaloric	R. Roy Chowdhury, S. Dhara, B. Bandyopadhyay	Physica B: Condensed Matter,	586, 412103, (2020).	1873-2135	https://doi.org/10.1016/j.phy	

	behaviour in layered intermetallic compound NdRu ₂ Si ₂ ,	y,				sb.2020.412103Get rights and content	
	A detailed study of magnetic properties and room temperature memory effect in wet chemically prepared core-shell Ni _{0.2} Cu _{0.8} nanostructured alloy,	S. Dhara, Prof. A. V. Mahajan,	Journal of Magnetism and Magnetic Materials	498, 166178, (2020).	1873-4766	https://doi.org/10.1016/j.jmmm.2019.166178	
Session: 2018-19 (July – 01, 2018 to June 30, 2019)							
	Disorder in Co-Cu granular alloys studied by ⁵⁹ Co NMR, ,	S. Dhara, R. Roy Chowdhury, B. Bandyopadhyay,	Journal of Magnetism and Magnetic Materials	471, 355–358, (2019).	1873-4766	https://doi.org/10.1016/j.jmmm.2018.09.099	
Session: 2017-18 (July – 01, 2017 to June 30, 2018)							
	Large positive magnetoresistance in intermetallic compound NdCo ₂ Si ₂ ,	R. Roy Chowdhury, S. Dhara, I. Das, B. Bandyopadhyay, R. Rawat,	Journal of Magnetism and Magnetic Materials,	451, 625-628, (2018).	1873-4766	https://doi.org/10.1016/j.jmmm.2017.11.107	
Session: 2016-17 (July – 01, 2016 to June 30, 2017)							
	Enhancement of magnetocaloric effect in V doped intermetallic compounds d(Co _{1-x} V _x) ₂ Si ₂ (x = 0, 0.20 and 0.35),	R. Roy Chowdhury, S. Dhara, B. Bandyopadhyay,	Physica B Condensed Matter,	517, 6–9, (2017).	1873-2135	10.1016/j.physb.2017.05.003	
Earlier (Before July – 01, 2016)							
1	Synthesis, characterization and magnetic properties of	S. Dhara, R. Roy Chowdhury, S	Journal of Magnetism and	374, 647–654 (2014).	1873-4766	10.1016/j.jmmm.2014.05.003	

	Co_xCu_{1-x} (x ~ 0.01–0.3) granular alloys	<u>Lahiri, P. Ray, B. Bandyopadhyay</u>	Magnetic Materials			14.09.030	
2	Strong memory effect at room temperature in nanostructured granular alloy Co_{0.3}Cu_{0.7}	<u>S. Dhara, R. Roy Chowdhury, B. Bandyopadhyay</u>	RSC Advances	5, 95695, (2015).	2046-2069	https://doi.org/10.1039/C5R9/C5R9A19178E	
3	Observation of resistivity minimum in low temperature in nanostructured granular alloys Co_xCu_{1-x} (x < 0.17-0.76),	<u>S. Dhara, R. Roy Chowdhury, B. Bandyopadhyay</u>	Phys. Rev. B,	93, 214423, (2016).	2469-9969	https://doi.org/10.1103/PhysRevB.93.214413	
4	Evidence of ferromagnetism in vanadium substituted layered intermetallic compounds RE(Co_{1-x}V_x)₂Si₂ (RE=Pr and Nd 0 ≤ x ≤ 0.35),	<u>R. Roy Chowdhury, S. Dhara, B. Bandyopadhyay</u>	Journal of Magnetism and Magnetic Materials,	401, 998, (2015).	1873-4766	10.1016/j.jmmm.2015.10.128	
5	Spectral anion sensing and γ radiation induced magnetic modifications of polyphenol generated Ag-nanoparticles,	<u>Zarina Ansari, Susmita Dhara, Bilwadal Bandyopadhyay, Abhijit Saha, Kamalika Sen,</u>	Spectrochim. Acta. A.,	156, 98 (2016).	1873-3557	https://doi.org/10.1016/j.saa.2015.11.029	
6	Magnetization Study of Co_xCu_{1-x} Nanoparticles,	<u>Susmita Dhara, Rajeswari Roy Chowdhury, Bilwadal Bandyopadhyay,</u>	Physics Procedia,	54, 98 (2014),	1875-3892	https://doi.org/10.1016/j.phpro.2014.10.034	
7	Evidence of Formation of Co_xCu_{1-x} Nanoparticles with Core-Shell Type Structure,	<u>Susmita Dhara, R Roy Chowdhury, B Bandyopadhyay,</u>	Acta Physica Polonica A,	Proc. 128(4), 533, (2015),	1898-794X	10.12693/APhysPolA.128.533	
8	Kondo effect in Co_xCu_{1-x} Granular Alloys Prepared By Chemical	<u>Susmita Dhara, Rajeswari Roy</u>	AIP Conf. Proc.	1665, 130056, (2015),	0094243X	https://doi.org/10.1063	

	Reduction Method,	Chowdhury, B Bandyopadhyay,				3/1.4918204	
9	<u>Ferromagnetism</u> in Nd(Co_{1-x}V_x)₂Si₂ (0 ≤ x ≤ 0.5).	Rajeswari Roy Chowdhury, Susmita Dhara, Bilwadal Bandyopadhyay,	Physics Procedia	54, (2014), 113–117 ,	1875-3892	10.1016/j.phpro.2014.10.046	
10	Effect of Vanadium Substitution of Cobalt in NdCo₂Si₂.	Rajeswari Roy Chowdhury, Susmita Dhara, Bilwadal Bandyopadhyay,	Acta Physica Polonica A.	128 (4), 530 (2015),	1898-794X	12693/APhysPolA.128.530	
11	Crossover From Antiferro-to-Ferromagnetism On Substitution Of Co By V In RE (Co_{1-x}V_x)₂Si₂ (0 ≤ x ≤ 0.35).	Rajeswari Roy Chowdhury, Susmita Dhara, Bilwadal Bandyopadhyay,	AIP Conf. Proc.	1665, 130040, (2015),	0094243X	https://doi.org/10.1063/1.4918188	

Conference Presentations

Sl. No.	Name of Conference	Place	Date: from to	National / International	Title of Abstract
<u>Session: 2022-23 (July – 01, 2022 to June 30, 2023)</u>					
1					
<u>Session: 2020-21 (July – 01, 2020 to June 30, 2021)</u>					
1					
<u>Session: 2019-20 (July – 01, 2019 to June 30, 2020)</u>					
<u>Session: 2018-19 (July – 01, 2018 to June 30, 2019)</u>					
1					

<u>Session: 2017-18 (July – 01, 2017 to June 30, 2018)</u>					
<u>Session: 2016-17 (July – 01, 2016 to June 30, 2017)</u>					
<u>Earlier (Before July – 01, 2016)</u>					
1	School on 5 th IEEE Magnetic Society Summer School	SRM University, Chennai	July 22-27, 2012	International	Study of magnetism in CoCu nanoparticle
	Conference on Magnetic Materials and Applications (MagMA-2013),	Dept of Physics, IIT Guwahati, Magnetic Society of india.	December 5-7, 2013	International	Magnetization Study of Co _x Cu _{1-x} Nanoparticles,
	59 th DAE Solid State Physics Symposium	VIT University, Vellore, Tamilnadu	December 16-20, 2014, India	International	Kondo effect in Co _x Cu _{1-x} Granular Alloys Prepared By Chemical Reduction Method,
	20 th INTERNATIONAL CONFERENCE ON MAGNETISM	Barcelona University, Barcelona, Spain, Europe	July 5-10, 2015	International	Coexistence of superparamagnetic and spin glass behavior in Co _{0.3} Cu _{0.7} and room temperature memory effect
Research Projects (Major/Minor Grants)					
Sl. No.	Title			Funding Agency	Status
Major Contribution to the Field					
1. Preparation of nanostructured alloys Co _x Cu _{1-x} (0.01 ≤ x ≤ 0.7) with core-shell. structure using chemical reduction and characterized by XRD, TEM, and ICP-OES.					
2. Non-interacting magnetic nanoparticles showing magnetization is a combination of superparamagnetism and ferromagnetism.					
3. A strong room temperature magnetic 'memory effect'.					
4. Higher cobalt content, x ≥ 0.17 samples, shows a resistivity minimum.					
5. The temperature of minimum increases with Co content.					
6. Analysis suggests the upturn arises due to elastic electron-electron interaction coming from disorder present in the system.					
7. NMR studies support the core-shell nanostructure and increase of disorder with the Co content.					

Abroad Visit	
1. Barcelona University, Spain, Europe for attending international conference, July-2015	
Administrative Experience:	
Refresher / Orientation / Short Term Course:	
	<u>Session: 2020-21(July – 01, 2019 to June 30, 2020)</u>
	<u>Session: 2019-20 (July – 01, 2019 to June 30, 2020)</u>
	<u>Session: 2018-19 (July – 01, 2018 to June 30, 2019)</u>
	<u>Session: 2017-18 (July – 01, 2017 to June 30, 2018)</u>
	<u>Session: 2016-17 (July – 01, 2016 to June 30, 2017)</u>
	<u>Earlier (Before July – 01, 2016)</u>
Number of Patents	
Awards and Distinctions	
Association With Professional Bodies	
Other Activities	
01	Question setter for UG Exams under Kolhan University, Chaibasa
02	Evaluation work for UG Exams
03	Invigilation Duty in the college
04	

Your Teaching Goal in Next 5 years (150 words):

The fundamental goal of teaching is to grow the desire of learning. I have mentioned some points about innovative learning in following.

- i) Fruitful interactive question answer session with students in relaxed atmosphere to clear the basic idea.
- ii) Presenting different structures and graph in the video form and 3D format in ppt presentation for better understanding.
- iii) Arrangement of sudden class tests for assessment of the understanding level.
- iv) Hands on experience to prepare different small setup of physics to make a correlation between the subjects, which are written in the text book, with that of the real world.

Your Research Goal in Next 5 Years (150 words):

- i) Detailed comparative studies on physical properties of bulk and nano crystalline double perovskite oxides.
- ii) Nuclear magnetic resonance study of transition metal oxide-based quantum spin liquid system in nanoscale form

New Laboratory Development Plan (If any):

Nano particles synthesis and charecterization laboratory

Also, I want to build a small experimental condensed matter laboratory in the department using my project money to introduce experimental research to the students in a simple way.

New Courses Development Plan (If any):

To introduce and start Nanomaterial and nanoscience in UG in the college.

Special Elective Papers You may offer (UG):

- **Nano Science and Applications**

Special Elective Papers You may offer (PG):

- **Nano materials and Nano Science**

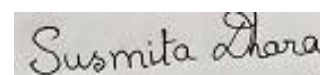
Research Guiding Willingness (Yes / No): Yes

No. of Scholars you are willing to supervise currently: 2

Declaration: All the information provided above are correct to the best of my knowledge & may be used for all official purposes.

Place : Jamshedpur

Date: 02.08.2023



Signature

Name: Susmita Dhara

Designation: Asst. Professor

Department: **Physics**